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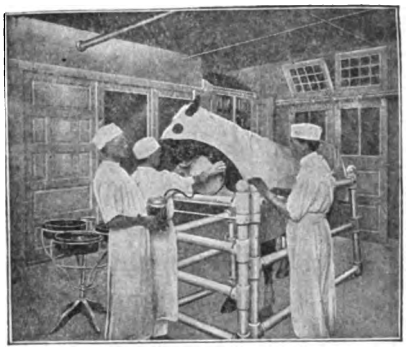

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*Rufus Cole, M. D., New York. 1913, Jour. A. M. A., lxi, No. 9, p. 663.

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and LABORATORY NEWS

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ORIGINAL

CONCERNING THE EFFICACY OF ANTI-TETANIC SERUM IN CONTEMPORARY INJECTION FOR THE PROPHYLAXIS OF TETANUS.

PROF. GUIDO TIZZONI.

BOLOGNA, ITALY

It is known as a fact by numerous and concordant experiments that antitetanic serum possesses a manifest preventive and curative action against tetanus, and that the dose necessary to prevent the development of the malady, or to save the animal from death when this has already developed, is more certain, when, in the first case, the time is shorter between the injection of the serum and the time of infection; and, in the second case, when this intervenes later and the symptoms of the malady are more advanced.

Thus the preventive dose is considerably smaller than the contemporary injection, and this immensely smaller than that of the curative; also when the cure is initiated immediately after the rising of the tetanic phenomena.

In practical applications, the beneficial effects of serotherapy in tetanus are not retarded in being established also in man, surprisingly so when the procedure of the malady is not too rapid, and the cure with serum is commenced in opportune time, which is, in the exordium of the malady and before the severity of this abates; and many are those now who have given and are giving a favorable judgment of the efficacy of this serum.

This manifestly is deduced by considering the action of the serum from the other side of that which results from experimental data, and from the exaggerated pretext that with the serum, there can be and there should be saved, all cases of tetanus, whatever be their gravity, whatever be the time the injection is practiced and the quality and quantity of the material introduced.

Besides, aside from the conditions imposed in an experiment, there are cases which in man as well as in horse fulminate in so grave a manner and develop so rapidly, that it is impossible to save them, even if treated precautiously upon the first evidence of the symptoms and though a strong quantity of material has been injected.

And in my long practice in this cause, I could cite a great number of observations in which death occurred in about 24-30 hours, and in some cases death resulted before the expiration of 24 hours, from the beginning of the phenomenon, and before the absorbed serum could have displayed its beneficent effects.

These are the most acute cases which the English designate by the name "fulminants," which do not permit and never will permit the augmenting of the number of recoveries above a certain percentage.

To this condition, on account of its irremediable nature, there is often added another datum of the employment of doses of the serum, entirely insufficient against the gravity of the malady.

And really, it is frequently the case that practitioners who, not attributing the just value to certain symptoms which may put them on their guard against the gravity of the case and before the malady gives impressionable manifestations, illusion them-

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selves that this can heal benignantly and inject at that moment useful doses of serum truly irritating.

Finally, often, it is not strange at the non-success of the undertaking, when the doctor solely uses that serum which first comes into his hands, and which is not always the best and the most adapted; serum which has no other outside indication than "antitetanic serum," and which easily lends itself to the misguided, to be employed as a curative, while it can hardly serve as a preventive, if scarcely it has the desired immunizing power, and which is not in many cases specifically indicated (1).

For this reason physicians, or those for them, when the necessity presents itself to use antitetanic serum, should in their order indicate the trade-mark in which they have confidence; otherwise at the time of need they are compelled to use material different from that which they may desire, and they will lose, by a second ordering, very precious time for their patients.

All these things have universally made known the necessity of anticipating the development of the malady before that this has developed; be it for a greater security in the result; be it for economy which at such a time is obtained by reason of the dose of the necessary serum, which in the preventive use is infinitely smaller than that which should be adopted in the cure of the malady already developed.

But, therefore, in the practice of preventive injections of serum, after the arrival of the suspected wound, or proceeding in operations which eventually gives place to the development of tetanus, be it largely collected in the practice, it is absolutely necessary that the experimental research has for its purpose a full and large sanction on the premises of the clinic.

Now, it is easy to demonstrate the curative action of a remedy by the influence which this manifestly exercises upon the stream and the symptoms of a malady; unfortunately this cannot be said in regard to the demonstration that a serum or a vaccine is combatting the development of this malady.

In fact, in these circumstances, to the cases that should have a favorable issue, there is always given a double interpretation, the lucky result obtained can depend as much on lack of infection, as also from the action of the serum.

Thus pursuing this road, there are always lengthy statistics to judge by and to take away every doubt regarding the real efficacy of the serum used as a preventive.

In another work (2) I have reported the first cases of my practice, in which the serum injected immediately after the arrival of the grave infection preserved with all security the wound and the development of the malady; and among these cases there must be especially remembered Observation First and Observation Second, in which the injuries occurred by accident in the laboratory, the infection had undoubtedly arrived because the produced wound was stained with pure culture of tetanus (most virulent).

That then in these cases the infection had arrived and the germs had really attacked the wound, the phenomena demonstrate that the patients presented after a short period of incubation, which served to represent the first signs of the development of the tetanic symptoms, almost a form of an abortive malady, soon passed to complete resolution.

And I have been able to observe many other favorable cases since that epoch, some of which occurred in colleagues that had taken recourse to come to me in professional accidents.

Above all, instructive are those cases, verified in some of our clinics in following laparotomy, in which, with the use of the preventive serum I have been enabled to save patients with or without signs of phenomena of the malady, notwithstanding there had been adopted the same catgut which in preceding operations had given the gravest tetanus and unexpected death.

He who has experienced in these cases the preventive efficacy of the antitetanic serum, does not any longer undertake large operations (laparotomy, hernia, etc.) without first having insured the patient with a small injection of serum; this is not neglected in military surgery, when the staining of a wound with ground-dust with which the clothes as well as the unprotected part of the body are so thoroughly covered, and which constitutes a condition which in itself renders easy the development of tetanus, even when the soldier scrupulously fulfils the prescriptions not to place the hands upon the wounds before they have been disinfected and bandaged at the place of first treatment.

All this, by the way, is valuable to give a personal conviction, but it is far from engendering in the masses that persuasion which is necessary to see the use of the preventive serum generalized.

There is presented, to this end, the precise demonstration, scientifically, of the efficacy of the antitetanic serum, used preventively, together with the knowledge of those data that are valuable in estab-

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lishing the necessary dose of serum in order to obtain sure effects and always to impede the development of the malady.

Without this, the use of the tetanic serum will never be adopted in daily practice.

Captain Professor Perrucci (3) in one of his special cases performed in this same institute, charged himself with the task of resolving the question as to the horse, inquiring into, after 10-25 days from the injection of the antitetanic serum of a determined value, the antitoxic power of the blood of the horse, to which the injection had been given.

He established, in a precise manner, that every 120-130 thousand U.A. injected are capable of raising 1 degree the antitoxic power of the blood of horse to which the injection had been given, which is, giving a yield of 1 U.A. to the c.c. for every 120-130 U.A. injected.

Thus it was established that for horse 200,000 U.A. are sufficient as a preventive dose, which should be repeated in a precautionary manner, only in cases when particular aggravation is presented.

There remains to be investigated into whether the same procedure could be confirmed in the case of man and what would be the calculated preventive dose in the method indicated. Besides it should be established whether the serum of the horse to which an injection had been given, as a heterogenous serum, was eliminated or destroyed from the body of the man within a shorter time than that already established for the horse, in order to see, for this side, the limit of its preservative power.

All these things proposed themselves to me to determine in further observations the concordant results of which have not made it necessary to enlarge the extension. In these observations the neutralizing power of the serum of the blood of the wounded was examined, taken prior to the antitetanic injection, of antitoxic value exactly determined, and of the serum collected after 10-16 days from the given injection.

For such researches we owe a word of thanks to Drs. Antonio Perrucci and Evaristo Saggini for the liberal hospital material placed at my disposal and for the relative clinical notes with which they favored me.

Observation First. R.A., 51 years old, laborer, native of Riola, resident of Bologne; recovered from an urgent case, second section, surgery. Greater Hospital of Bologne (Prof. Monari) August 11, 1911, got under a convoy on the march, and ground the inferior extremities in connection with the artery of the foot and leg. On the same day blood was removed from the bend of the arm and immediately there was injected under the skin 5 c.c. of antitetanic serum of the value of 200,000 U.I.

On the thirteenth successive day the injection was repeated as previously and on the 17th there was made another withdrawal of blood from the bend in the arm.

On the 20th of November the legs were amputated at the upper third. The patient was cured and left the hospital on the 6th of April, 1912.

The experiments practiced on the rabbit with the mixture in vitro made with serum of the first draught of blood and with dry tetanic toxin gave the following results:

Serum c.c. 1 1 U. T. per kilog.=local phenomena.
Serum c.c. 1 1½ U.T. per kilog.=the same.
Serum c.c. 1 2 U.T. per kilog.=4 days.

On the other hand, with the serum of the second draught of blood made after the patient had received 400,000 U.I. in two doses, within a period of six days, after there had passed ten days from the first and four from the second injection, there were obtained the following results:

Serum c.c. 1 1 U.T. per kilog.=nothing.
Serum c.c. 1 2 U.T. per kilog.=nothing.
Serum c.c. 1 4 U.T. per kilog.=nothing.
Serum c.c. 1 6 U.T. per kilog.=trace.

The serum of this patient, neutralizing by itself almost one toxic unit (U. T.) in a manner to show two for every c.c. of serum, in order to kill the animal (rabbit) in four days, we have, after the injection of 400,000 U. I. in two times, and after ten days from the first injection, the same serum has acquired the power of neutralizing 5 U.I. more than that which neutralizes normally; that is its antitoxic value has been raised 5 degrees and therefore every 60,000 U.I. have raised 1 degree the value of the serum.

Observation Second. Z.C., 48 years old, pastry cook, of Bologne, urgent, second section surgery of Bologne (Prof. Monari) 26-6-12. Ground fingers of the right hand, having been drawn into a pastry machine which completely cut off the forefinger and the two last phalanges of the last three fingers.

Under the influence of chloroform the maimed fingers were adjusted and there was taken a sample of blood from the vein in the bend of the arm by means of a Tursini syringe; immediately thereafter there were injected under the skin 10 c.c. of antitetanic serum at the value of 200,000 U.I.

On the 6th of July following, a second sample of blood was taken from the vein in

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the bend of the arm. The patient left the hospital cured on the 16-7-12.

Tried in the rabbit the neutralizing power of the serum collected with the two draughts of blood, there were obtained these results:

Serum taken before the injection.

Serum c.c. 1 2 U.T. per kilog., 6 days.

Serum taken in 10 days after the immunizing injection.

Serum c.c. 1 4 U.T. per kilog., nothing.

Serum c.c. 1 6 U.T. per kilog., local phenomena.

Hence also in this case the normal serum had neutralized 1 U.T. more, which, taken into account in the computation of the neutralizing value acquired by the blood through the injection of the antitetanic serum reduced to 5 the number of the U.T. effectively decomposed with the serum of the second draught; hence the yield of the 200,000 U.I. injected in this case had conferred to the serum the power of neutralizing for every c.c. 5 U.T. that is giving to the serum the same power of 1 for every 40,000 U.I. injected.

Observation Third. V. A., captain of the constabulary urgent, principal Military Hospital, Bologne, August 22, 1912, for many grave injuries on the face by reason of a fall from horseback while on the parade grounds. At a more minute examination there were noted the following injuries: a diffused excoriation along the entire left temporal; a small lacerated wound in conjunction with the nasal cartilage; a bilateral hematoma of the eyelids associated with strong conjunctival congestion of the left. Furthermore, the wound presented excoriations of the inferior lip with profound disengagement of the gum limit and of the fold of the forelip which was filled with sand-grains and beaten soil.

In this case, considering the gravity of the injury, the impregnation of the wounds with the dirt of the locality where many horses pass (parade grounds) and finally considering the position of the wounds which could have brought on cephalic tetanus, always very fearful, it had been advised to inject two preventive doses daily for two consecutive days, of the value of 200,000 U.I., beginning on the morning of July 22d.

The patient was discharged from the Military Hospital on the 4th of August, 1912.

In this case, a sample of blood was taken from the vein in the bend of the arm on the morning of July 22d, 1912, before the introduction of the injection of antitetanic serum, and on the 8th day of August, that is sixteen days from the last injection of antitetanic serum, seventeen from the first.

The serum taken before the beginning of the preventive injections against tetanus gave the following results:

Serum c.c. 1 2 U.T. per kilog.=7 days.

Instead, the serum obtained from the taking of the blood of August 8th gave this result:

Serum c.c. 1 6 U.T. per kilog.=nothing.

Serum c.c. 1 10 U. T. per kilog.=in 9 days.

Hence in the case in question the antitetanic value acquired by the serum stands between 6 and 10, presumably will be 8 U. A. to a c.c., because with 10 U.T. there is already obtained a retardation of from two to three days in the death of the animal. Also here 1 U.A. must be lessened because of the stability of the normal serum.

In this case, therefore, the yield of the preventive dose injected would be of 1 degree, that is 1 U. A. to the c.c. of serum for every 100,000 U. I. more or less introduced.

It has been noted that in the patient in question there was used, for the greater part, serum of a horse (Ubia), different from that injected in the preceding ones (Fava), which by the experimental result obtained under the cure of the tetanus we knew would give a very large yield, sufficiently superior in confrontment of that of other vaccinated horses in the yield, which could simply be deducted from the number of the U. I. contained in it.

Observation Fourth. C.A., 24 years old, born and residing in Monzuno in the province of Bologne, September 23, 1912, taken to the second section of the Greater Hospital (Prof. Vannini) for a wound by a firearm in the right forearm, in which there were formed two large breaches in the anterior and posterior region of the forearm above mentioned, with implication of the muscles, the flexible and extended tendons, with comminuted fracture of the radius, a compromising of the radial artery and the carrying away of a tract of the median nerve.

There were removed the fragments of bone, there were regulated the maimed parts, the suture of the median was made.

The patient left the hospital, on the way to recovery, on November 22, 1912.

There were made, with preventive intent, two injections of antitetanic serum, of the value of 200,000 each (mare Fava), the one on the 23d of September, and the other on the succeeding 25th, injecting in all 400,000 U.I.

Before the injection of the serum there

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was taken a sample of blood from the bend of the arm September 23d, and a second one October 3d, that is, after ten days from the first injection.

The serum of the patient, before the immunizing injection, gave the only result, and here it is:

Serum c.c. 1 2 U.T. per kilog.=6 days.

The serum of the second draught gave instead these results:

Serum c.c. 1 4 U.T. per kilog.=nothing.

Serum c.c. 1 6 U.T. per kilog.=nothing.

Therefore, at least in this case, the yield was 6 U.A. to the c.c. and calculating the unity on account of the normal serum and bringing it into detraction, that is 1 U. A. to the c.c. for every 70,000 U.I. injected.

These experiments prove much more than the exposition of numerous clinical cases in which there were used with efficacy the antitetanic serum as a preventive, because there is given the scientific reason, by which the serum in question confers to man a raised degree of resistance against the virus, respectively against the toxin of the tetanus, and on the 10th day after the arrival of the infection; when there already is danger of the development of the malady. Furthermore they show by precise data of facts what should be the quantity of serum to be injected in order to surely prevent the development of the malady and still better, the number of U.I. which must be, to this end, introduced.

From these researches then there can be drawn the following conclusions:

1st. The normal blood of man is capable of itself of rendering inactive a U.T. of the tetanus to a c.c.; since it has to happen by means of the lipoids or of the albuminoids of the serum and with a different mechanism from that which regards the manner of the actions of the antibodies, in the especial case of the antitoxin of the tetanus.

2d. The antitetanic serum in the dose of 200,000 U. I. confers to man, after 10-16 days of the injection, a high degree of immunity, for which every c.c. of serum is capable of neutralizing from 2-5 U.T., that is, if it has a yield of 1 U. A. to the c. c. in every 40-100,000 U.I. injected.

The yield of the serum introduced is not always in proportion to the respective number of U.I. injected, varying the degree of immunity conferred; which is to say, the number of U. A. found in the blood, with the quality of the serum used, as it was also demonstrated in the curative action of the same serum and according to the researches by me previously followed. (4)

4th. The antitoxic power of the blood of man injected with antitetanic serum is maintained at a sufficiently raised degree and after fifteen days from the last preventive injection.

Now, making a comparison between the results obtained by Captain Perrucci in horse and of that in man, it would appear, at first sight, that the yield from a given quantity of antitetanic serum, of the noted value, would be greater in the second than in the first.

From facts, we know, that in the horse, every 120-130,000 U. A. injected, are capable of raising 1 degree the antitoxic power of the blood; in man instead, there would be obtained the same effect with one dose that varies from 40,000 to 100,000 U. A., according to the quality of the serum used.

These figures would be in contradiction to the facts already established in experimental researches in the laboratory, by which, a homologous serum, that is, collected from subjects of the same species as those which are to be subjected to injection, produces an immunity more complete and a duration greater than that obtained with heterologous serum of the same activity(5).

Furthermore, this larger yield in man is, above all, apparent; it is necessary, therefore, to keep in view in calculating these values the corporate masses in which a determined quantity of serum is distributed. And the difference of the corporate mass in horse and that of man is truly noteworthy, and not to be minimized.

Therefore in making the reports from the average weight of man and that of horse, from the experiments cited by Captain Prof. Perrucci it is found that this is seven times the first; but if for the raising of one degree the antitoxic power of the blood of man 40-100,000 U.A. are sufficient then for the horse there should be doses seven times larger, that is 280,000-700,000 U.A. Instead, let us suppose that in conferring to horse 1 degree of immunity 120-130,-000 U. A. are sufficient; hence the data relative to the homologous serum receives also by these researches a full confirmation.

Hence, what should be the conduct of the surgeon confronted with indicated cases? After it has been exposed, and an account kept of the fact, which, in spite of the application of antisepsis to the treatment of the wounds the tetanus often ensues in all its gravity, I do not think it is necessary to waste any words in demonstrating the necessity of preventing this terrible malady by means of antitetanic serum.

Guissard was the first to avail himself systematically of this method in cases of suspected wounds; but it was in a special manner, after the brilliant results obtained

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by Nocard in the field of veterinary surgery that the medical profession felt themselves spured on in following the example.

On the other hand, while the method might have appeared rational, and in France, at the Congress of Surgery of 1912 Championniere, Bazy, Schwartz and others had declared that tetanus had been made to disappear from their statistics, simply by subjecting all subjects with suspected wounds to injection of serum and Vallas, still affirming in a concise manner it to be the preventive treatment in simliar cases formally indicated, the abstention should be considered as a true fault, for there are not lacking nor missing the furious opposers, those who combat the value of the method, and who consider as less than useless the practice, with a stubbornness worthy of a better cause.

From the objections advanced by these, objections that were fortunately combatted in an especial manner by Baillard, two have awakened great enthusiasm; that is, the one which refers to the appearance of tetanus in spite of the preventive injections and the other that admits of a minor efficacy of the serum in man in opposition to the effects more surely obtained in horse.

As for the first of these objections, it should be quickly observed that it cannot be pretended of the serum, whatever its antitoxic value, its absolute certainty of infallibly preventing tetanus, notwithstanding the fact, that the serum had the desired power when injected in the necessary quantity.

At any rate, the fact cannot be hidden that in cases in which tetanus has developed, in spite of the serum, the malady has had a more fortunate course and was more easily conquered.

Concerning the action less sure, of the horse serum as assigned to man, this concept would appear at first sight to have favored the relative knowledge of the state of an heterologous serum in the body of the animal of different species. But, if there are taken into consideration the favorable effects constantly obtained with a similar serum, the same in horse as in mule, ram, she-goat, pig and the smaller animals of the laboratory, it is necessary to agree that the fears based upon the heterogenousness of the serum employed should at least be considered exaggerated.

There are besides notes of researches by Dehne and Hamburger according to whom the tetanic antitoxin introduced into the human organism confers upon the blood a manifest antitoxic power which maintains itself constantly for 7-8 days and then suddenly falls.

And at last, my present researches confirm and enlarge the results of the preceding, besides demonstrating by a scientific method and by its most exact nature, that the blood conserves an antitoxic power sufficiently raised and after thirteen days of the practiced injection of serum, they establish, likewise in a precise manner, the same preventive dose of the antitetanic serum.

At this point, it is helpful even to remember that an habitual draught, arbitrarily fixed at 10 c.c., the quantity of serum to be employed in a preventive manner; but this sort of arbitrary judgment demonstrates above all, fallacy. In fact, in promoting a sufficient degree of immunity there enters principally into play the content in U.A. of a given serum, the content of which could vary between limits sufficiently vast in the units of volume, and when it refers to serums of the same manufacture. Therefore on the phials of 5-10 c.c. of my serum I adjoin plainly the indications of the respective U.A. contained because it is these that establish the value.

Now from the foregoing researches it results in a plain manner, that to obtain with my serum an action surely preventive it is necessary to inject not less than 200,000 U.A.

If all the institutions in which there is produced the antitetanic serum, would fix, in a precise, scientific manner the preventive dose, and this, expressed in U.I. and reproduced on the labels of the respective phials, I believe that this would be a noteworthy aid in the diffusion of the prophylactic use of said serum.

Instead as I have said above, it is found that commercial serums carry the simple indication "serum antitetanic" without the other data which have a great value and which would be sufficient sometimes to spur on the hesitating physician.

Furthermore, to the influence of these strange circumstances and complete excellence of the method, it is certain that the use of preventive antitetanic serum for man offers indisputable advantages, and therefore is to be recommended under every aspect. The objections formed against its value do not live under the control of the critics because they lack a real foundation.

We see moreover, that Dr. Barzocchi (6) surgeon of the Vespucci Hospital of Florence has urged its use, deriving inestimable benefits; also indisputed benefits were derived from the use of preventive serum in the recent war of conquest

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in Libia, which was by me gratuitously prepared for the needs of the Royal Army.

It would certainly be very useful for the sake of humanity if these examples were to be largely followed in Italy and outside in the practice of civil and military surgery.

REFERENCES.

(1) My antitetanic serum, as much for preventive as for curative use, may be found at the Serotherapy Institute, Milan, countersigned with my name and with the indications of the immunizing unit (U.I.) which it contains.

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THE TREATMENT OF CHRONIC CONSTIPATION.

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NEW YORK

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It is highly important before discussing the treatment of chronic constipation to consider the etiological factors upon which treatment of this affection much depends. The causative factors may be briefly stated as follows:

Etiology.—1. Error in diet; the use of too concentrated articles of food, e.g., meat, eggs, milk, which leave little residue to stimulate intestinal peristalsis, or use of food which is too coarse and leaves too much residue, may cause fecal impaction.

2. The drinking of too little water in intervals between meals which causes too great inspissation of intestinal contents, or using water containing too much lime salts.

3. Sedentary habits, a lazy life neglecting to promptly attend to calls of nature.

4. Nervous diseases, i. e., hysteria, neurasthenia and diseases of spinal cord and brain.

5. Chronic affections, as emphysema and pleural adhesions.

6. Atony of intestinal and abdominal walls, obesity, frequent pregnancies and the constricting effect from improper dress, entroptosis.

7. Stenosis of pylorus, or adhesions or stenosis of segments of the intestine.

8. Uterine displacements, abdominal tumors or hernia.

9. Malaria and lead poisoning.

Bearing these facts in mind the treatment of chronic constipation resolves itself into:

1. Removal of the cause.
2. Dietetic treatment.
3. Hygienic treatment.
4. Medicinal treatment.

Removal of Cause.—The cause must be definitely determined and the condition remedied if we are to be able properly to treat chronic constipation, a careful examination is necessary to determine the cause and to properly treat this underlying etiological factor. It is our duty to determine if there is a local condition present necessitating surgical or other interference to eliminate it.

Dietetic Treatment.—The dietetic treatment is of great importance in the treatment of this disorder. If the diet is properly looked after it aids much in relieving the condition. Foods that are easily digestible and leave a moderate residue should be given.

I allow patients suffering from chronic constipation meats of all kinds, except pork and veal; bread, the coarser the better, which should be taken in large quantities, and the kinds of bread taken should be varied; soups of all kinds; butter; oatmeal; fish; vegetables; coffee; cocoa; milk in small quantities; apples, stewed or baked; prunes; figs; dates; pears, stewed; and all kinds of fruits whether stewed or preserved.

The patient must drink plenty of water daily.

I never allow patients suffering from this affection, to have new bread or pastries, nuts, rice, potatoes, peas, eggs, except in moderation and only scrambled eggs allowed. Tea, because of the tannic acid it contains I prohibit. I instruct the patient to have a glassful of water, hot or cold on rising and retiring; to take every morning or evening some stewed figs, baked apples or other cooked laxative fruit.

Hygienic Treatment.—Daily exercise is essential, especially such exercise as brings the abdominal muscles into play. This may be gymnastic movements, use of pulley weights, golf, fencing, rowing, etc. The exercise, however, must vary according to occupation and the physique and strength of the patient and should not be too extreme to avoid a distinctly unfavorable effect. The patient should avoid laziness and not neglect to promptly respond to calls of nature. Daily tepid or cold sponging followed by sharp friction with a rough towel to secure vigorous action of the skin is an effective aid not to be lightly estim-

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ated. The patient should massage his abdomen ten minutes before arising every morning. The physician should insist upon a habit of a regular hour every morning for bowel action, whether there be desire or not.

Medicinal Treatment.—Drugs play a subordinate part in the treatment of chronic constipation. Drugs are used that increase peristalsis, increase intestinal secretion, aid digestion, and restore tonicity of bowels.

I obtain good results from following:

Tr. nuc. vomicae.....3ij
Fl. ext. casc. sag. arom.....ʒj
Tr. belladonnae.....3j
Elix. lactopeptine q.s.ad.....ʒiij
Misc.
Sig.: 3i t.i.d.p.c.

The aromatic cascara sagrada is a tonic laxative increasing the gastro-intestinal secretion and peristaltic action. There is no griping or unpleasant after-effect following its use. It is nearly a specific in non-surgical chronic constipation. To get permanent result it must, however, be used in small doses often repeated and its use persisted for a considerable length of time. It relieves constipation by restoring tonicity of bowels. Tr. nux vomica is valuable in chronic constipation because of its property of stimulating peristalsis and its bitterness increasing the gastro-intestinal secretion and appetite. Tr. belladona aids in stimulating peristalsis. All cathartics and laxatives of this class are increased in their effectiveness by the free ingestion of water.

The following also aids much in relieving this condition:

℞ Aloin.....gr. iii
Ext. belladonnae.....gr. ii
Strychninae sulph.....gr. ½
M. et div. pil. no. xx.
Sig. Two at bedtime.

Aloin is valuable in chronic constipation on account of its purgative effect, but griping is much less than aloes. In case of torpidity of liver resine podophyllin may be added. If constipation is associated with chronic gastritis or gastric sluggishness.

I obtain good results from the following:

Ext. nuc. vomicae.....gr. vi
Ext. belladonnae.....gr. iv
Sodii bicarb.....3iss
Pancreatin.....3j
M. et div. caps. No xxiv.
Sig.: One before each meal.

Sodium bicarbonate is an antacid and pancreatin a starch digestive ferment, which therefore aids starchy digestion before the acidity of the stomach has ended the process. The saline waters, Hunyadi Janos, Pluto, Carabana, Abilena, etc., taken in the morning before breakfast (as long before as may be) aid correction of digestion and catarrhal conditions of the gastro-intestinal tract. Their unrestricted use should be, however, avoided. Similar results may be obtained from sodium phosphate or magnesium sulphate one or two teaspoonfuls in a glass of warm water, in the morning. Suppositories are used in relieving chronic constipation, but I rarely resort to them because their effect is local and temporary, and if they are too long continued they may produce rectal irritation.

Enemata may be used to substitute remedies given by mouth to prevent habit formation. Enemata produce cleansing of colon and reflexly stimulate peristalsis. Their continued use is injurious because of irritation of the rectal and colonic mucous membranes. As a temporary remedy does good, any enema of saline, soap suds, or plain water may be used. Permanent results are usually obtained from injection of two ounces of olive oil warmed to body temperature, injected at night and retained until morning.

In conclusion, I wish to state that the general practitioner should not limit his treatment to drugs, but should endeavor to find the etiological factor of chronic constipation, remedy it or remove it and of paramount importance is the regulation of diet. With treatment as outlined above, I have obtained satisfactorily good results.

42 Seventh street.

Philadelphia Hospital Modernization Assured.—The inclusion of an item for one million dollars for improvement of Philadelphia General Hospital, in the new loan bill for $11,500,000 just passed by councils and signed by the mayor, means the definite and early change of the city's great charity into one of the world's models for treatment and teaching purposes. At least 3,000 beds are in view for this notable object.

Casualties in the German Medical Corps.—The army surgeons of all the nations, but apparently especially of the Germans, have suffered very severely in the present war. Up to the middle of October 135 of the German medical staff were reported killed, wounded, or missing, 74 of these having been killed. In the entire Franco-German war of 1870-71 only 11 German surgeons died on the battlefield or from wounds there received.

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THE MEDICAL FORTNIGHTLY

and LABORATORY NEWS

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EDITORIAL

The Medical Staff of St. Louis' City Hospitals.

In another column we are publishing the list of physicians who are to have in charge the work at our various city institutions for the next two years, the present total being 133. Under the terms of the new charter, lately adopted, the hospital work and the hospital staff is under the control and management of a single individual who has been appointed to the position by the mayor. That individual at the present is the one man in the city who best knows the hospital needs and the profession through several years of intimate experience with both. Director Tolkacz was entirely familiar with the defects of the old system of staff appointment and developed the new after considerable study of the subject; it seems to have been most happily conceived and bids fair to work successfully. He has divided the profession into three classes: grouping Washington University and St. Louis University in the first and second, and the National University and physicians of no school affiliation in the third. From each of these three sections he has appointed complete hospital staff. The work in the hospitals has been divided into divisions and each staff is to be given definite charge of its division, working along beside each other, with the normal interchange of internes and nurses, it is believed that efficiency will be greatly benefited by the natural competition which will result, certainly the outlook for excellent service has never been better than it is now, never before have so many men of such high professional repute been willing to render the city and the profession this service. These positions are most exacting, with the exception of those specialties which call for only occasional attendance, the members of the staff pledge themselves to regular daily attendance and faithful and painstaking work. There is considerable to be gained in experience and repute through such service, but the man who undertakes it and gives of his time and energy as he must will never be materially paid for what he does. Such is the altruism of our profession. With Director Tolkacz at the helm we can readily believe that peace and harmony will prevail, and that every man will be kept right at what he is pretending to do.

Dedication of the Robert Barnes Hospital.

On the afternoon of October 27th that wonderful, tremendous, beautiful, useful institution, the Robert A. Barnes Hospital, was dedicated to service by Bishop E. R. Hendrix of the Southern Methodist Church. Invitations to the ceremony had been sent generously to those supposed to be interested (many who were really interested were missed) and several thousand were in attendance at the ceremony or visited the hospital during the afternoon when it was open for inspection. The institution is easily one of the most important of its kind, and is large beyond the thought of those who have not seen it. Taken together with Washington University's Medical School, which adjoins it on the East it is to be an institution which will be of the class of Johns Hopkins and Harvard. The hospital itself is said to have cost $1,200,000 and it is abundantly endowed. With the exception of one building it is to be devoted to free treatment. The buildings have been splendidly located, to the south and west they face the open, overlooking Forest Park. They are convenient to several car lines and accessible over some of the city's finest streets. With the exception of one steam railway line there is nothing in the vicinity which should cause objectionable noise or dirt, and this line is so situated that it could very readily be tunneled to obviate much that makes it a source of possible annoyance.

The institution of this important plant marks a new mile-post in the progress of St. Louis medicine, and in the putting the city among the foremost of medical centers of the world.

To Remove Iodine Stains.—Tincture of iodine stains may be removed from clothing or the skin by using strong ammonia water.

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Old Lady cure-all is now in bad repute. And yet she has only recently lost her reputation. From the times when she occupied her sacred position to the era of search for the philosopher's stone, and this search extended into the nineteenth century, men have longed to find Panacea. If there is no general cure for mortal ills we are now in rapid pursuit of specific treatments. The wind has changed. Alas! the disease also changes. With our ideas of the nature of infection and the principles of biologic chemistry, shall we be able to devise principles of reaction while, both patient and germ exhibit such a range of variation.

Panacea.

We have reached by a circuitous path the inside-out of the view of a savage, incredible as we may judge. When the savage wished to give himself courage, he ate the heart of a brave animal. Today for insufficiency of many organs we feed our patients comparable tissue. This agrees with our notion. And we do not assert any error in our treatment. We are rather emphasizing the continuity of thought. In psychotherapy we cram ideas of the necessary type into our patient. Let us now look at this principle from another angle. It is clear as we know in iron medication, that there is another factor. Put a bar of iron in the jejunum. The question of assimilability obtrudes. We are now studying anaphylaxis. May it be that certain symptoms have to do with this other factor? The savage may or may not acquire courage in eating a heart. The question is, is there anything in the tissue of a heart so eaten and assimilated which can calm a fearful individual? What can we do towards the redintegration of the human mechanism? Other procedures are peculiarly of the panacea type. The idea of "giving the patient something" is contending with the idea of "altering the patient in some manner." Upon this basic divergence of opinion rests the lack of harmony in our methods of treatment today. And we think it is a good plan to realize just why any treatment is or is not to be applied. Do not let the panacea-notion control you unconsciously.

Let nothing we have said be construed as in opposition to the use of serums—we leave that to the anti-vaccinationists. Editorials are merely expressions of a thought, and thoughts frequently take value from their suggestions, rather implied than asserted. We find the trend of evolution in medicine worthy of a review. And how will the future comment?

T.H.E.

ST. LOUIS ITEMS

Death of Dr. Hugo Starkloff.—The profession has lost one of if not its oldest member in the death of Dr. Hugo Starkloff, which occurred on October 31st. Dr. Starkloff was one of the group of notable Germans who came to this country in 1848; at his death he was 82 years of age. During the many years of his St. Louis residence he had always been a man of exceptional activity in all lines of service and usefulness. At all times he was recognized as easily one of the most foremost physicians of the city.

Mayor Kiel and His Cabinet Visit the St. Louis Medical Society.—On the evening of October 24th Mayor Kiel and his cabinet, composed of President Kinsey of the Board of Public Service, Director of Public Utilities Hooke, Director of Streets Talbert, Director of Public Welfare Tolkacz and Director of Public Safety Swingley were the guests of the St. Louis Medical Society. Each of the gentlemen addressed the society, explaining such phase of his work as concerned our profession and somewhat of the scope and purpose of the new city charter.

Death of Dr. A. M. Wilson.—Dr. Alvah Miller Wilson died at his home, 5458 Clemens avenue, November 2d, after a prolonged illness. He was 40 years old, and had practiced nose and throat surgery in St. Louis many years. Dr. Wilson was graduated from the Washington University Medical School, and was a member of the St. Louis Medical Society and the state and national medical associations. He is survived by his widow and two infant daughters.

New Staff of St. Louis' City Hospitals.—*City Hospital*, Washington University Selections—Medicine, Drs. Geo. Dock, A. E. Taussig, J. Cook, W. Fischel. Genito-urinary, W. Robertson, H. McClure Young. Orthopedics, A. O'Reilly, C. A. Stone. Stomatology, J. H. Kennerly; Neurology and Observation, M.A.Bliss. Obstetrics and Gynecology, H. Schwarz, G. Gelhorn, F. J. Taussig. Eye Service, M. Wiener, J. H. Gross. Dermatology, M. F. Engman, W. H. Mook. Surgery, F. T. Murphy, A. O. Fisher, R. Schlueter, W. C. G. Kirchner, C. E. Hyndman. Ear, Nose and Throat, W. E. Sauer. Pediatrics, B. S. Veeder, T. C. Hempelmann, A. S. Bleyer.

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St. Louis University Selections: Medicine—Drs. C. H. Neilson, W. P. Elmer, W. Engelbach, S. Lipsitz. Genito-urinary—C. E. Burford, H. J. Scherck. Orthopedics—Alex. E. Horwitz. Stomatology—V. Loeb. Neurology and Observation—C. G. Chaddock, H. Unterberg, T. H. Romeiser. Obstetrics and Gynecology—H.Ehrenfest, P. H. Swahlen. Ear, Nose and Throat—H. W. Loeb. Dermatology—Jospeh Grindon, Theodore Greiner, Robert H. Davis. Surgery—M. G. Seelig, W. E. Leighton, W. T. Coughlin. Pediatrics—James R. Clemens, Ernest L. Coffin.

National University and Open Selections: Medicine—Drs. F. C. E. Kuhlmann, H. J. Cummings, Edwin Schisler, George Richter, L. S. Luton and L. J. Wolfort. Genito-urinary— Henry Gettys and H. G. Lund. Ear, Nose and Throat—R. Ph. Scholz and H. E. Miller. Dermatology—J. J. Houwink and J. H. Kimbrough. Consulting Roentgenologists—F. B. Hall and M. B. Titterington. Obstetrics and Gynecology—A. N. Curtis, John C. Morfit, R. H. Fuhrmann and J. C. Murphy. Neurology and Observation—Given Campbell, M. W. Hoge, Percy J. Farmer and William L. Nelson. Pediatrics—H. A. Uhlemeyer and Julius Rotteck. Surgery—Ernst Jonas, Francis Reder, O. H. Elbrecht, E. A. Babler, J. J. Link, Roland Hill. Eye Service—J. E. Jennings, Max Jacobs. Orthopedics—Scott Parsons, E. L. Cooley.

City Sanitarium.—Term from November 1, 1914, to November 1, 1916: Medicine—L. J. Oatman, George W. Koenig, J. J. Singer, Carl A. Hobrecht. Eye Service—S. J. King, John Greene, Jr. Dermatology—C. H. Ball, Alex. S. Wolf. Consulting Alienists—M. A. Bliss, Charles C. Chaddock. Gynecology and Obstetrics—William H. Vogt, F. W. Bailey. Neurology and Observation—Percy J. Farmer, Theodore H. Romeiser, H. Unterberg, F. M. Barnes, Jr., Stomatology—J. P. Harper, William O. Appel. Surgery—J.W. Shankland, W. Doyle. Ear, Nose and Throat—A. F. Koetter, F. C. Simon. Consulting Neurological Surgeons—Ernest Sachs, Louis Rassieur.

STAFF OF CITY INFIRMARY.

City Infirmary: Medicine—Drs. W. C. Mardorf, W. D. Aufderheide, J. C. Slater and William Winter. Ear, Nose and Throat—F. G. A. Bardenheler and Will Bostick. Gynecology and Obstetrics—H. H. Helbing and W. L. Clapper. Neurology and Observation—Percy J. Farmer and F. M. Barnes, Jr. Dermatology—Senter L. Gettys and C. H. Ball. Surgery—W. U. Kennedy and C. W. Gaertner. Genito-urinary—Clarence Martin. Eye Service—E. P. North and C. W. Tooker. Stomatology—J. P. Harper and William O. Appel.

Isolation Hospital.—Surgery—C.W.Gaertner, W. U. Kennedy. Dermatology—J. J. Houwink, Senter Gettys. Pediatrics (diseases of children)—T. C. Hempelmann, P. G. Hurford, P. C. Jeans, T. Wister White, Gustave Lippmann. Eye Service—E. P. North, C. W. Tooker. Ear, Nose and Throat—C. Armin Gundelach, Herman B. Miller.

Robert Koch Hospital.—Medicine—Carl A. Hobrecht, W. D. Aufderheide. Ear, Nose and Throat—E L. Meyer. Surgical cases sent to the City Hospital.

TENTATIVE PROGRAMS OF THE ST. LOUIS MEDICAL SOCIETY.

Visiting physicians are invited to attend; 3523 Pine street, 8.30 p.m.

SATURDAY NOVEMBER 14

1. Typhoid Fever Considered in the Light of Recent Observations, Dr. Edwin J. Schisler.
2. Spontaneous Rupture of Malarial Spleen, Dr. Wm. E. Leighton.

SATURDAY NOVEMBER 21

1. Cancer of the Larynx: Demonstration of Specimen and Patient Dr. E. Lee Myers.
2. Changed Conditions in Tuberculous Bone Lesions Relapsing in Adult Life, Dr. Alex. E. Horwitz.
3. Joint Syphilis, Dr. Archer O'Reilly.

SATURDAY NOVEMBER 28

1. The Roentgen Ray: Massive Dose and Deep Therapy, Dr. Miles B. Titterington.
2. Report of Cases of Cerebrospinal Syphilis, Treated with Salvarsanized Serum, Dr. Leo G. Bartels.

SATURDAY DECEMBER 5

1. The Present Status of Our Knowledge of the Pathology of Hodgkin's Disease, Dr. George Ives.
2. Operative Indications for Goiter, Dr. Vilray P. Blair.
3. The Alternating Pulse, Dr. Albert E. Taussig.

SATURDAY DECEMBER 12

Address on Medical Organization.

SATURDAY DECEMBER 19

Program Furnished by the St. Louis Medical History Club.

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BOOK REVIEWS

Books, Reprints, and Instruments for this department should be sent to the Managing Editor, Century Building, St. Louis.

Blood Pressure in Medicine and Surgery. A Guide for Students and Practitioners. By Edward H. Goodman, M. D., Associate in Medicine in the University of Pennsylvania. 12mo, 226 pages, illustrated. Philadelphia and New York: Lea & Febiger, Publishers, 1914. (Cloth, $1.50, net.)

No physician is properly equipped today unless he understands blood pressure and carries with him an instrument for its measurement. It is quite as important as the thermometer and stethoscope. The subject has been thoroughly investigated in all its bearings by many of the foremost physiologists and clinicians.

A brief, clear and authoritative book has been needed to place this definitive body of knowledge readily at command of the practitioner of medicine and surgery. Dr. Goodman has devoted years of study to the subject, and is qualified to present it in every particular. He covers the physics and physiology sufficiently to convey an understanding of the principles, and then devotes successive chapters to Hypertension and Hypotension; Blood Pressure in Cardiovascular, Renal, Infectious and Nervous Diseases. Chapters are also given on Blood Pressure in Obstetrics and in Surgery. Then the author deals with conditions in the Gastro-intestinal tract and the Internal Secretory Glands and in Ophthalmology. He close with chapters on the Effect of Drugs and other Therapeutics Measures on Blood Pressure and on the treatment of Hypertension and Hypotension. His style is exceedingly simple, clear and direct, and he introduces many typical and instructive diagrams. As an authoritative compendium of the subject this handy volume accomplishes its purpose "to make fully available the assistance which the study of blood pressure affords in the diagnosis, prognosis and treatment of disease."

A Manual of Diseases of the Nose and Throat. By Cornelius G. Coakley, M. D., Clinical Professor of Laryngology in the College of Physicians and Surgeons, Columbia University, New York. New (5th) edition. 12mo, 615 pages, with 139 engravings and 7 colored plates. Philadelphia and New York: Lea & Febiger, Publishers, 1914. (Cloth, $2.75 net.)

This work has long been recognized as one of the most practical and useful manuals of Laryngology in the English language. It touches upon the pathology, simplifies and abbreviates the diagnosis, and emphasizes those methods of treatment which are most practical. Its statements are brief and clear, and its illlustrations convey valuable supplementary information. This book gives quickly and easily the practical working points indispensable in the every-day routine of the busy physician. Its teaching quality, as well as its simplicity, are among its attractions, for it is a favorite text for undergraduate students. With the publication of this new edition, the fifth, Coakley's Laryngology is again before the profession in revised form.

Radium and Radiotherapy. Radium, Thorium and other Radio-Active Elements in Medicine and Surgery. By William S. Newcomet, M. D., Professor of Roentgenology and Radiology, Temple University, Medical Department, Philadelphia. 12mo, 315 pages, with 71 illustrations and 1 plate. Philadelphia and New York: Lea & Febiger, Publishers, 1914. (Cloth, $2.25, net.)

The extraordinary element radium has been thoroughly investigated, and its powers and properties are now becoming known. Like other potent agents, it can do great good or great harm, according to the intelligence or ignorance with which it is used. Dr. Newcomet is a leading authority on radium, and the whole field of radio-active substances. In this small volume of absorbing interest he first conveys a knowledge of what radium actually is, its nature, its physics and its chemistry, and in the second half of his book he details its use in all the diseases in which it has been found of value, and gives full directions for its application. His chapters on cancer and other tumors will be read with special interest. Simple illustrations are used to make clear any point, and typical cases are introduced in proof of the practical value of this newest and most powerful addition to the armamentarium.

Ontario Surgeons Barred from the British Army.—A number of Canadian surgeons who have volunteered for service in the British army have, it is said, been rejected by the War Office on the ground that they are not qualified to register as British practitioners. Ontario, it appears, has refused the British offer of reciprocity in medical licensure on the alleged ground that the British qualifications were not up to the Ontario standard. The only way out of the difficulty is for the Canadian surgeons to obtain British qualification through examination, since Ontario is apparently unwilling to accept reciprocity in registration.

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The Laboratory News

(Consolidated with The Medical Fortnightly October, 1914.)

A Journal of Laboratory Facts for the General Practitioner.

Edited by R. B. H. GRADWOHL, M. D., St. Louis.

The Nastin Treatment of Leprosy.

A new hope seems to be about to be raised by a report on the treatment of this intractable disease by L. B. Scott, which appeared in the Indian Journal of Medical Research, Vol. I, 1913, page 352. This appeared as part of a "Supplement to the Sanitary Reports of the Province of Eastern Bengal and Assam for 1911, and the Province of Assam for 1912." The communication is of great importance because it covered several years' observation and the report represents a purely objective consideration of the effects of the treatment.

There were thirty cases of pure nerve leprosy and nineteen mixed cases. Most of the cases had been infected for a long time, the average time being 7.7 years. One case was treated three and a half years, another two and a half years and a third two years. Altogether forty-three cases were treated six months or longer, twenty-six longer than one year and five longer than two years. The average length of time for treatment of all cases was thirteen months. The average number of injections per case was 38.8. The number of injections made in each case in fact varied between 9 and 121. Nastin B. was used exclusively and each time a full tube was used. The intervals between injections was irregular, about fourteen days, later on in the treatment, the intervals were more regular, usually weekly, intramuscularly in the interscapular region.

The tabulated results of this treatment showed that 40.8 per cent were "cured" or "greatly improved;" 45 per cent "improved" and 14.2 per cent "stationary or worse." The "cure" spoken of was not only freedom from lepra bacilli but also "perfect health and full possession of all his faculties, with no signs of leprosy." Only one case was alluded to as a "perfect cure in every sense of the word," a result observed after two years treatment.

The cases that were classed as "worse" after the institution of the treatment were such as died from some intercurrent disease (dysentery).

The investigator urges the necessity of long treatment, in most cases over one year, in many over two or three years. The injections it is needless to state, were well borne by the patients. This is a remarkable result and should attract those of us who are interested in this disease to hope that at last something has been introduced that "does" something. Chalmoogra oil has been clamied to have been the only drug that has ever accomplished any result in some cases of leprosy, but now comes Nastin B. with this excellent record. It is a distinct advance in leprosy therapeutics.

LABORATORY AIDS

A Simple Method of Differentiating True Diphtheria Bacilli from the Pseudo-Diphtheria Bacilli.—Manen of Heurlin (Muench. Med. Wochenschft, 1914, No. 13) states that in agar with 1.5 per cent grape sugar plus 10 ccm. NNa_2CO_3 to each 100 ccm. of agar true diphtheria bacilli show after 15 to 48 hours incubation colonies that are anaerophilic or pure anaerobic while the pseudo-diphtheria bacilli are strictly aerobic on the surface of the tube or at a depth of not more than 8 mm. from the surface.

The Action of Pneumococcus Culture-filtrates upon Guinea-pigs and Mice.—Aoki (Zentralbl. f. Bakt., Bd. 73, Heft 4-5) noted that filtrates of pneumococcus cultures show a higher degree of toxicity for guinea-pigs than do the simple pneumococci. This is not to be noted with respect to mice. It was also noted that very small doses of the filtrate protected mice from the minimal lethal dose of the bacteria but this was not the case with pigs.

Remarks on Typhoid Bacilluria.—Adam Patrick in Journal of Bacteriology and Pathology, 1914, XVIII, 365, undertook an investigation purporting to demonstrate that the bacilluria of enteric fever patients is not necessarily due to the bacillus typhosus. In 6 out of 17 cases examined

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the bacilli in the urine were not typhosus though they were members of the typhoid group. These atypical coli bacilli make their appearance in the average rather after the date for typhoid bacilluria and persist for a while. The bacilli were readily agglutinated by the patient's serum but not by a stock antityphoid serum.

A Case of Generalized Vaccinia in Eczema Capitis.—Ohmann (Muench. med. Wochen., 1914, page 770) reports a case of a child of one and three-fourth years that had an eczema of the scalp showing after vaccination generalized vaccinia, with acute severe onset, high fever, enlargement of the spleen, bronchitis, throat and mouth mucosa inflamed, leucocytosis, and especially lymphocytosis. The result was good, no pits and healing of the eczema.

The Abderhalden Dialysation Test in Pellagra.—Obregia (C.r. Soc. de Biol., T. 75, 1913, page 587) tried out the dialysation test in seven cases of pellagra. In two cases of beginning pellagra, the serum split sympathetic nerve tissue, but did not split brain tissue and sexual organ extracts. The other five cases showed various degrees of advanced pellagrous symptoms and in these cases brain tissue was split by their sera, also sympathetic nerve tissue, in four out of five cases, thyroid tissue in three cases and liver and cardiac tissue in two cases. The sexual tissue gave no reaction in any case.

Family Syphilis with Especial Reference to Keratitis Parenchymatosa.—Fritz Lesser and Paul Carsten (Deutsch. med. Wochen., 1914, No. 15, page 755) made an investigation of 35 families and found that so far as the etiology of keratitis parenchymatosa is concerned, there is no other cause than syphilis. Tuberculosis may be a predisposing factor but nothing else. They found that clinically healthy mothers of syphilitic newly born children nearly always give a positive Wassermann reaction. Colle's law is therefore false. The kind of infection in the mother is not always easy to determine. There are twice as many syphilitic children born as are discovered by clinical symptoms immediately after birth. Latent syphilis of the newborn children must be remembered in connection with the "wet-nurse" problem. The intensity of the infantile syphilis does not depend upon the age of the syphilis in the mother, rather is the frequency of the transmission to be seen from the age of the syphilis in the mother. Mothers with a positive Wassermann six to twelve years after the infection began give birth to syphilitic children. Therefore it is extremely important from the marriage standpoint to make investigations of women. A positive Wassermann in the father appears to be less important from the standpoint of communication to the offspring than it does in the mother.

The Cause of Pellagra.—C. C. Bass in American Journal of Tropical Diseases, October, 1914, says: During the few years since pellagra was first found to be endemic in certain sections of the United States, the disease has appear to become more and more important, because of its apparent rapid spread. The number of cases now in this country and the number of deaths that result from the disease each year is simply appalling. The question as to whether this is a new infectious or contagious disease recently introduced, or whether it has existed in the United States, unrecognized, for a very long time, is one on which the students of the disease do not agree. No doubt the majority believe, however, that the disease has not existed to any considerable extent for many years. They think it would have been recognized and if it had not been recognized at the time it would at least be remembered by those physicians who are now familiar with the disease and who have practiced medicine for the past ten to forty or fifty years. If pellagra has existed here only a comparatively few years as the majority seem to believe, we have therein evidence that is not caused by any specific infectious agent transmitted from man to man, either by contagion or by any known manner of infection. The disease is slow in its development in the individual and lasts for many months or years. If it was highly contagious or infectious one case could be the source of infection of many others. This, however, is contrary to the usual occurrence and when other cases seem to be traceable to a given case the time involved is usually months or years. A contagious or infectious disease spreading so slowly from case to case might reach enormous proportions in a few years in institutions and places where people are crowded together, but it does not seem that it could be distributed over such a very large area as that in the United States in which pellagra is known to exist and to originate. Especially is this true when we consider the class of people mostly affected. Pellagra patients do not belong, as a rule, to the class who travel considerable distances or mingle except with the people of a limited circle or community. It should require certainly very many years for a

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disease of this nature to be carried from a focus or from several foci to almost every town and country of the entire South and to several States of the North and West. Be it remembered that the disease affects the rural population and those of the small towns chiefly. Recently there have been reported four cases apparently originating at different places in Minnesota.

This and much other evidence against the theory that pellagra is due to some kind of infectious agent has been strongly supported by recent observations by Goldberger. In the Georgia State Sanitarium a careful study of the records show that "of 996 patients admitted during 1910—excluding those that died, were discharged during their first year, or had pellagra on admission or within a year of admission—there remained at the institution after one year 418, and of this number 7.65 per cent have developed pellagra since that time." On the other hand, 293 employees, nurses and attendants of the institution have all remained free from the disease, although they have lived "in substantially the same or in identical environment as the asylum inmates for at least one year." It is pointed out that if the disease had developed in the attendants at the same rate that it did in the inmates there should have been 22 cases of pellagra among them.

Another institution studied furnishes even more striking evidence. An orphanage on July 1, 1914, had 211 orphans in the institution, and of these 68, or 32 per cent, had pellagra. In the 25 children under 6 years of age there were 2 cases, or 8 per cent, and in the 66 children over 12 years of age there was only 1 case, or less than 2 per cent, while of the 120 children between the ages of 6 and 12, over 5 per cent had the disease.

A minute investigation has been made at both institutions of all conceivable factors that might possibly explain the striking exemption of the groups indicated. The only constant difference discovered relates exclusively to the dietary. Those free or almost free from pellagra had the best diet. The small amount of fresh animal protein and the large proportion of vegetable diet was very apparent.

On the other hand, we have very strong evidence presented by the Thompson-McFadden Pellagra Commission that the disease is certainly produced by some infectious agent and is communicated from man to man in some unknown way. In the light of the observations of Goldberger and others, it is striking that this present study and house-to-house canvass of the homes of over 5000 people living in six endemic foci failed to indicate any definite relation of the disease to any element of the dietary. In fact, the very thorough study of the dietary of pellagrins and nonpellagrins in Spartansburg county, South Carolina, would seem to prove almost beyond doubt that diet is not a causative factor in the disease. Corn, for instance, has long been charged to be the cause of pellagra. No other single article of diet has been thought by many investigators to be responsible. It was found that of 3,135 persons eating cornmeal daily, 3.1 per cent had pellagra, while of the 681 who ate it rarely or never, 6 per cent had the disease. It would seem, therefore, that abstinence from corn food instead of its use rather leads to the development of pellagra.

A most striking piece of information brought out by the study is the relation of frequency of association between individuals developing pellagra for the first time and persons previously suffering from the disease. There was very definite evidence of intimate association with a pre-existing case of pellagra in more than 80 per cent of the cases incident in 1912 and 1913. Of the 819 persons living in the same house with pellagrins, 6.59 per cent developed pellagra during 1912 or 1913; of all the population of the same mill villages living next door to a pre-existing case, 17.52 per cent acquired the disease; of the remainder of the population living at a greater distance than next door from a pre-existing case of pellagra, only 0.52 per cent acquired pellagra. This evidence is met, of course, by the argument that the dietary conditions that caused pellagra in one member of a household are likely to produce it in other members. This argument may be applied also to some extent, at least, to people living next door to cases of pellagra.

Rather extensive experiments have been conducted to try to communicate the disease to monkeys and the results have failed so far to prove the infectious nature of the disease. The Illinois Pellagra Commission in 1910 attempted to produce the disease by inoculation of material from pellagra patients and also by feeding. Something over 100 monkeys were used, but nothing definite was determined. The Thompson-McFadden Pellagra Commission has inoculated about 125 monkeys, but nothing definite has been determined. The skin lesions which most closely resembled those seen in human pellagra occurred in one of the control monkeys that had not been inoculated at all. The present writer has had a somewhat similar experience. Of 35

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rhesus monkeys inoculated in a variety of ways with a great variety of material from pellagra patients and subjects, none developed anything that very strongly indicated pellagra. One monkey, however, that had not been inoculated at all developed lesions on the hand and forearm that very strongly resembled the skin lesions of human pellagra. This condition developed in less than two weeks from the time the animal arrived from New York. If it had occurred in an inoculated monkey it would probably have been mistaken for pellagra.

Recently Lavinder and his coworkers reported briefly their experiments attempting to transmit pellagra to monkeys and baboons. Every conceivable material from pellagra patients and subjects was fed or injected. "In all, 103 experiments have been made in which material collected from pellagrins during life or at necropsy was introduced into the stomachs of the animals; 52 experiments were made in which pellagrous fluids were injected, and 96 in which extracts, suspensions or emulsions of pellagrous tissue were injected." The animals were exposed to the sun's rays by being kept in glass-covered houses.

In only one instance has there occurred indications suggesting pellagra. One monkey, 20 days after a first injection of cerebro-spinal fluid from a pellagrin and 2 days after the second injection of similar material, developed skin lesions at the forearms and hands that resembled and ran the course with recovery of human pellagra.

A complete clinical picture of pellagra was produced by experimental inoculation of a rhesus monkey by Harris. The writer had the privilege of seeing this animal at the time the disease was active, and there is not the slightest doubt but that the disease was certainly pellagra. I should look with great doubt upon any theory or claim as to the cause of the disease which is not able to explain, at least, this case of experimental pellagra.

The Coastal Climate of Tropical Queensland; Meteorological Observations Taken at Townsville.—(Jour. Trop. Med., 1914, XVII, 225.)—John M. Swan in American Journal of Tropical Medicine, Oct., 1914, says: Taylor and Young find, as a result of daily observations taken at the Australian Institute of Tropical Medicine, Townsville, North Queensland, that there are two distinct seasons, each of six months' duration; a cooler season commencing toward the end of April; and a hotter season toward the end of October. Simultaneously with the fall of temperature observed during the last of April and the first of May, there is a similar decrease in the relative humidity of the air. The wet season finishes about the end of April; only light rains occurring in May and June; to the extent of 1.64 and 0.54 inches respectively. From the first of July until the middle of September only 0.32 inch of rain was registered. During the last of October and the first of November there is a marked rise in the temperature, with an increase in the relative humidity when the rains begin. From the first of December until the end of April, 45.59 inches of rain were registered. Observations were also made concerning the intensity of sunlight, as regards the violet and ultra-violet rays after the method originally described by Paul Freer of the Bureau of Science, Manila. This method depends upon the photocatalytic decomposition of oxalic acid into carbon monoxid, carbon dioxid and water in the presence of a uranium salt. The sunlight in Townsville is found by this method to be extremely rich in violet and ultra-violet rays. The maximum decomposition was 22 per cent, which is higher than any other observation, whilst the average decomposition is higher than that recorded at Kuala Lumpur, a place almost on the Equator. There is no difference as regards the maximum intensity of these rays between the hot and the cold seasons and that the lower averages which are obtained during the hot wet season are really due to the fact that the sun is obscured by clouds.

Preliminary Notes on Entamebiasis.—(Jour. Trop. Med., 1914, XVII, 227.)—As the result of a systematic examination of the stools of all cases of fever, which were not amenable to quinine and were not typical of enteric fever, Lim Boon Keng found that infection with entamebae is quite a common disease in Singapore. The disease is polymorphous to such an extent that the author is inclined to rank it in that respect with syphilis. The infecting organism, according to his experience, is the Entameba histolytica, or some form closely allied to it. The primary infection is usually by way of the intestinal canal, when it produces the well-known amebic dysentery. It may be located in the bile passages, however, without giving rise to intestinal symptoms; but producing nausea, vomiting and epigastric pain. This hepatic infection is often characterized by an irregular fever and is frequently diagnosticated typho-malaria. It should be called entamebic fever. Very soon after it starts flatulence and diarrhea occur and then the con-

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dition may be mistaken for typhoid fever. The urine may show the diazo-reaction. Sometimes the hepatic infection is very acute and produces toxemia. More rarely multiple abscesses may be the first indication of the illness. Hepatitis and hepatic abscess is a late manifestation of the disease. He gives the following table of the protean features of the disease:

Primary manifestations: (1) Hepatic passages; toxemia, entamebic fever, enterocolitis. (2) Chronic bronchitis. (3) Hepatitis and hepatic abscess; obscure headaches, neuralgic pains. (4) Entamebic cachexia; anemia, anasarca, albuminuria, profuse sweats, debility. (5) Peritonitis, ascites, typhiltis (?). Relapses are very frequent and one form of the disease may pass into another. Death may result from hyperpyrexia, exhaustion, asthenia or cachexia. The only remedy is emetine chlorid. The maximum dose should be given either subcutaneously, intramuscularly or intravenously.

Minnesota State Medical Association.—At the annual meeting of this association, held in St. Paul on October 1st and 2d, Dr. John T. Rogers, of St. Paul, was elected president. Other officers were elected as follows: Dr. L. M. Roberts, of Little Falls, first vice-president; Dr. E. S. Muir, of Winona, second vice-president; Dr. Earle R. Hare, of Minneapolis, treasurer; Dr. Thomas McDaniel, of St. Paul, secretary; Dr. F. R. Weiser, of Windom, and Dr. Hugh F. McGaughey, of Winona, councillors.

An Experiment in Health Administration.—Under the direction of the Health Commissioner of New York an area on the east side of the city, bounded by Scammel, Division and Clinton streets, and the East River, has been marked off as a "health district," in which will be tested the value of a method of local health administration. This consists in the proposed government of the district for health purposes, from within the district itself with the cooperation of a local volunteer health board, instead of from Department headquarters, and in the control of field workers by a local director in the place of various bureau chiefs. This plan aims at the avoidance of overlapping by different bureaus or departments concerned with health matters, and at increased usefulness through the establishment of intimate neighborly relations between the Department of Health and the local community. The development of the plan is under the control of Dr. Shipley.

TO THE FRONT SAINT LOUIS

THE MEDICAL FORTNIGHTLY
and LABORATORY NEWS
A Cosmopolitan Magazine for the General Practitioner

The Medical Fortnightly is devoted to the progress of the Practice and Science of Medicine and Surgery. Its aim is to present topics of interest and importance to physicians, and to this end, in addition to a well-selected corps of Department Editors, it has secured correspondents in the leading medical centers of Europe and America. Contributions of a scientific nature, and original in character, solicited. News of Societies, and of interesting medical topics, cordially invited.

Advertising forms close on the first and fifteenth of each month. Time should be allowed to submit proof for correction. Advertising rates on application.

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Subscription, $1.00 a year, in advance, including postage to any part of the United States, Mexico and Canada. Postage to foreign countries in the Universal Postal Union, including Newfoundland, $1.00 a year additional.

Subscriptions may begin at any time; volumes end with June and December.

Contributors should understand that corrected typewritten copy is essential to clean proof and prompt publication, and is much more satisfactory than manuscript. Original articles should be as condensed as justice to the subject will allow.

Editorial offices in St. Louis and St. Joseph, where specimen copies may be obtained, and subscriptions will be received.

Contributions and books for review should be addressed to the Managing Editor, 714 and 717 Century Building, St. Louis, Mo.

MEDICAL MISCELLANY

A Servian lunatic kills an Austrian archduke, and the French and the Belgians must pay for it with torrents of tears and rivers of blood. Eternal Justice and the logic of historical events!—Critic and Guide.

Western Reserve University Gets Million-Dollar Bequest.—A bequest of a million dollars to the medical school of Western Reserve University was announced September 20. By the provisions of the will of Liberty E. Holden, who died a few months ago, nearly one-sixth of the estate, which is estimated to be worth between $5,000,000 and $6,000,000, is left to the medical school. The fund is to be known as the Albert Fairchild Holden foundation in memory of Mr. Holden's son, whose death preceded his own.

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"This towel is disgraceful" declared the drummer at the mining camp hotel. 'Boss," said the colored porter, "seventy-five men done wiped dey han's on dat towel dis mawnin, an' you is de first to complain"—Denver News.

Enforcing the Dog Muzzling Ordinance.—Active steps to enforce the dog muzzling ordinance recently enacted by the Board of Health of New York City, began on September 15. During the week following 1307 dog owners, who neglected to conform to the requirements of the law, were served with copies of the ordinance, and were warned that prompt compliance was necessary. Following such notification, non-complying dog owners were summoned to court, and during the week ending September 22, 59 were fined by various magistrates, while in 20 cases sentence was suspended. During the month of August 5258 stray dogs and 22,459 cats were seized and destroyed by the American Society for the Prevention of Cruelty to Animals.

The Tuberculosis Sanatorium.—When I bought the first land on which the Adirondack Cottage Sanatorium is built I paid $25 an acre for it; but the price was then thought absurdly high. My last purchase of five acres cost me $5,000. To my knowledge there has never been an employee who came to the sanatorium in sound health who developed tuberculosis while there, and a sanatorium can no more endanger the health of the neighborhood in which it is built, even if the residences are at its very gates, than it could if it were placed on top of a high mountain, miles away from habitation.—Dr. Edward L. Trudeau.

A Canadian Hospital in London.—It is reported that the Canadian War Association has arranged to equip and maintain a hospital of fifty beds in London for twelve months; Sir William Osler and Mr. Donald Armour have taken charge of the organization. This hospital, which will be called the Queen's Canadian Military Hospital, will be under the control of the War Office and may be enlarged to 100 beds if necessary. The equipment and maintenance will require about $100,000 and funds will also be needed for the general work of the hospital. Subscriptions can be sent to the honorary treasurer of the organization, Mr. G. C. Cassels, 47 Threadneedle street, London.

Civilian Practitioners in War Times.—In a stirring editorial review of the war situation as affecting physicians, the British Medical Journal, for August 8th, points out that it is the duty of those practitioners who are not called to the front, to safeguard the interests of their colleagues who have left their practice in order to serve in either army or navy. About half the doctors in active practice in Southampton are liable for active duty. The views of the members of the profession are shown by the adoption of the following resolution, at a meeting held in that city on August 4th: "That this meeting of the medical profession loyally undertakes to safeguard the interests of those of their colleagues who are called to leave their practices in the service of their country, and also undertakes any medical duties for the sole benefits of the absentees." The spirit expressed in this resolution has manifested itself throughout the medical profession of Great Britain. We have no doubt that in Germany and in the other countries engaged in the war the civilian practitioners have taken an equally high stand, for such altruism is characteristic of the practitioners of medicine in whatever country they may be found.

Suprarenal Virilism.—Nothing need surprise us today in the realm of affections due to aberrations of organs of internal secretion. Hardly two years ago we read of the extraordinary power of thyroid extract on a youth with arrested development in no wise cretinoid, the practical outcome having been that he attained the stature demanded for army service. A condition termed suprarenal virilism has been described by Ballez and Tuffier, who recently reported an extraordinary case (abstracted in the Berliner klinische Wochenschrift, July 27) in which an old woman was transformed by visceral disease into the simulacrum of a male. The woman was 62 and a sufferer from metrorrhagia (due to supposed fibroid) and diabetes. The latter affection was believed to contraindicate surgical intervention. It showed, however, marked improvement under diet. At this period she developed a strong beard and mustache, her face became florid, and the male type of baldness (frontoparietal) began to appear. The voice changed to the masculine type, the muscles began to develop strongly, the clitoris increased in size, measuring four cm. in length, and a prepuce of corresponding size developed. Years had elapsed since the menopause. The woman now preferred rough manual labor to feminine tasks. Eventually the enlarged uterus was extirpated and found to be the seat of simple hypertrophy only. The adrenals were found to be the seat of fibrolipomatous

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growths, which were not disturbed.—Med. Record.

Compulsory Vaccination.—The Commissioner of Education of New York State has recently notified the officers of the public, parochial, and private schools throughout the State that no pupil is to be admitted for attendance unless he or she has been vaccinated, as required by law, and this has led school officers to apply to the attorney general for a construction of the vaccination law. In his opinion Attorney General Carmody says: "Children in parochial schools should be vaccinated, as are children in the schools supported at public expense. It is apparent that the danger of contagion is existent in parochial schools as well as in schools supported by public money. The purpose of the statute being so plain, good citizens will not question its application, but in recognition of a policy will accede thereto. The difficulty of penalizing a parochial school which existed when Attorney General Cunneen examined the question some years ago has not been removed from the present statute. However, the ordinance powers conferred upon municipalities and the general powers of local boards and of the State Commissioner of Health are such that I believe vaccination could be enforced where schools not supported by the public money endanger the health by persistently refusing to comply with this highly commendable requirement."

New Way of Victimizing the Afflicted.—Louis H. Ward, attorney of the California State Board of Medical Examiners, has found in the offices of certain quacks, interleaved copies of Parke, Davis & Co.'s price list, with fake specialties listed at exorbitant rates. The special leaves, of which fac similes are given by Mr. Ward, follow closely the type and methods of description of the genuine leaves and contain such gems as the following: Lymph Compound; Absolute specific for Sexual Neurasthenia, Nervous Collapse, Debilitated Condition and Disorders. The prices range from $5.25 for 2000 units up to $43 for 10,000 units. Cat Serum, tubes 1, 2 and 3, is priced at $20.45, $21.60 and $26.40 respectively. Rectal suppositories containing ext. cannabis indica, ext. berberine, ext. witch hazel, boracic acid, glycerine and cocoa butter are listed at $21.36 per dozen. Several other formulae at corresponding prices are quoted and in prominent type are reiterated such statements as "Sold to physicians only," "Draft or money order must accompany orders." "Prices quoted are net," etc. The obvious intention of the interleaves is to be able to show the patient, in the price list of a well known firm, an excuse for an excessive charge for medical treatment. Messrs. Parke, Davis & Co. fail to appreciate the compliment paid them and while, under the circumstances, a disclaimer from them is unnecessary, they wish to aid in every way in suppressing this new way of imposing upon a credulous public.

Keep Calm.—Calm down! Nothing is quite so bad or hard as it might be, anyhow. Nature always is on your side, and nature always is ready to help. Look your task, your trouble, square in the face and calmly tackle it. It isn't as easy as it sounds, but it's a lot easier than it seems. The first light you see may be a dim flicker but many a roaring fire visible for ten miles has been started by the glowing end of a parlor-match. From the flicker to the flare isn't such a long step, if you keep calm.

The Deaf Child and His Education.—Grace Burton, in the Cleveland Medical Journal, July, 1914, in discussing this subject, says: Any child who cannot take the whisper test at ten feet, with his back turned to the person testing him, should be immediately placed in a school for the deaf, in a hard-of-hearing class where he will receive special acoustic training and learn lip reading. He may thus be given a chance in the world with his more fortunate, hearing brother. Note the change in the faces of these children after they have been in such a class a month, and you will never again compel any such child to endure the torture of remaining in a hearing school. The child who loses his hearing entirely after having acquired speech presents another interesting problem to the educator. If all such children, immediately upon their recovery from the illness which has caused, or is going to cause, deafness, were taught to understand spoken language by watching the lips of the speaker, their speech could be preserved and they could, in many cases, reenter hearing school with a minimum of handicap and complete their education there. This rarely occurs, however, for few parents realize that a child possessing normal speech, even up to ten years of age, will become a deaf mute, if the hearing is lost, unless prompt attention is given to his instruction in speech and speech-reading. They do not realize the tremendous advantage of such instruction, nor, often, how or where it may be obtained. If we could secure the hard-of-hearing, and those who become deaf through disease and accident, in time, half

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the labor, yes, 80 per cent, is eliminated, for neither articulation nor language structure must be taught. The case of a congenitally deaf child presents a very different and much more difficult problem. It is now well known that those whom we term deaf mutes have no other natural defect save that of deafness. He is born with all the potentialities of the adult brain. Every convolution is present at birth. His vocal organs are perfect. He has the power to use them.

Contraindications to Narcosis.—Stange writes that patients with mitral lesions, in general, bear narcosis well; those with lesions of the aortic valves or of the aorta, poorly, especially if the heart muscle itself is weakened or diseased. In determining the advisability of giving a general anesthetic, a functional test of the sufficiency of the cardiac muscle would be most valuable Practically, however, this is not an easy matter. If the patient is able to climb three flights of stairs without undue dyspnea, the heart muscle may be considered normally strong. Less than this, however, usually suffices to render a general anesthetic permissible. The blood-pressure is not a useful indicator, since patients with a pressure of less than 60 mm. or more than 200 mm. often bear the anesthetic well. The same is true of both large and small hearts, determined radioscopically. The most useful test, according to the author, is a respiratory one. A normal individual can easily hold his breath for 30-40 seconds; one with an impaired myocardium only 10-20 seconds. The test is done as follows: The patient sits comfortably in a chair and makes a moderately deep inspiration. The physician lightly compresses his nostrils and directs him to hold his breath as long as possible. Anyone with a normal myocardium can comfortably hold his breath for 30 seconds and then breathe easily; if the myocardium is impaired, 20 seconds is his limit and is followed by dyspnea. Even patients with tuberculosis, bronchitis or pleuritic effusion can still hold their breath for 25-30 seconds. The writer concludes that no one, who is unable to hold his breath for 20 seconds, should be subjected to a general anesthetic.—Berl. klin. Woch., No. 14, 1914.

Definition of "Nostrum."—There is a very simple definition of the word "nostrum" in its relations to physicians, and it is a definition that is accepted by the public, for the simple reason that the public believes that this is the present definition of the word by the average physician. The definition is this: Any preparation of which any physician does not know all the ingredients should be to him a nostrum. It makes not a particle of difference whether it is called a "nostrum," or an "ethical," or a "non-secret preparation." If he does not know the names of its ingredients, that preparation is unknown to him; it is a secret to him, and, as such, it is a nostrum to him, and the lack of knowledge should prevent him from prescribing that preparation until he does find out, by personal analysis, by personal investigation, or by authoritative information through channels that are open to every physician, exactly what is in the medicine. In other words, a physician ought to know what is in a medicine that he prescribes; if not, he is prescribing a "nostrum" because to him it is an unknown preparation. There can be no compromise here; no middle ground regarding the only attitude that is at all scientific and honorable. Either a physician knows, or he does not know.—Edward Bok, in the Medical World, May, 1913. (We accept this definition so far as regards active constituents. No physician pretends to remember all menstruae, excipients and flavoring agents, even in official preparation. Editor.—The Medical Council, June, 1914.) To the above we will add that if it is intended that every physician remember the ingredients of all the compounds he prescribes, some very excellent as well as very ethical compounds must be listed as "nostrums." For example, what physician attempts to remember the constituents of compound tincture of gentian? Of compound licorice powder? Of compound syrup of rhubarb? These are very simple "compounds," very ancient, too, that have a place in this and preceding pharmacopeias, and are, under their titles, familiar to thousands of physicians. In our opinion, the term "nostrum" may be made closer to fact, by saying that it refers to substances the ingredients of which are neither known to the medical profession, nor recorded in ordinary works of authority.—The Gleaner.

I say, therefore, never brood over the ills of life, because you thereby multiply them. Live through today and let the morrow take charge of itself. Imagine no evil, and thereby diminish it. If there is sweetness anywhere, find it as the honey-bee does. Be a friend to the world, do a kindness whenever opportunity offers; be quiet, calm, self-possessed and self-controlled, and then you will discover the very essence of Christianity.—Hepworth.

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Vasomotor Derangement.—The part played by the vasomotor system in countless diseases is at last thoroughly recognized. As a consequence, circulatory disorders are among the most common functional ailments that the modern physician is called upon to correct. Various heart tonics and stimulants are usually employed, but the effect of these is rarely more than temporary. To re-establish a circulatory equilibrium that offers real and substantial relief from the distressing symptoms that call most insistently for treatment requires a systematic building up of the whole body. Experience has shown that no remedy at the command of the profession is more servicable in this direction than Gray's glycerine tonic comp. For nearly twenty years this standard tonic has filled an important place in the armamentarium of the country's leading physicians. Its therapeutic efficiency in restoring systemic vitality and thus overcoming functional disorders of the vasomotor or circulatory system is not the least of the qualities that account for its widespread use. The results, however, that can be accomplished in many cases of cardiac weakness have led many physicians to employ it almost as a routine remedy at the first sign of an embarrassed or flagging circulation.

Plasmodial Anemia.—In spite of the modern theory of the etiology of malarial and malarial affections (mosquito-borne infection) this plasmodial disease continues to be rife in certain sections of the country and bids fair to be, like "the poor," "always with us." Every physician of experience appreciates the principles which should guide him in the treatment of the various acute manifestations of paludal poisoning, i. e., the destruction of the plasmodial hosts which have invaded the blood and which, if not eliminated, consume and destroy the red cells, the vital element of the circulating fluid. When this purpose has once been accomplished the patient is but partly cured; the damage done to the red corpuscles must be repaired and the vitality of the blood restored, if re-infection is to be avoided. If there is any one condition in which direct hematinic or blood-building therapy is positively indicated, it is in post-malarial anemia. As soon as the febrile period has passed, iron, in some form, should be given in full dosage. Pepto-mangan (Gude) constitutes the ideal method of administering this essential blood-building agent in this as well as in any anemic condition. Both the iron and manganese in pepto-mangan are in organic combination with peptones and are therefore easily and promptly absorbed and assimilated without causing digestive derangement or producing constipation.

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—E. B. Todd, M. D., Denver Medical Times.

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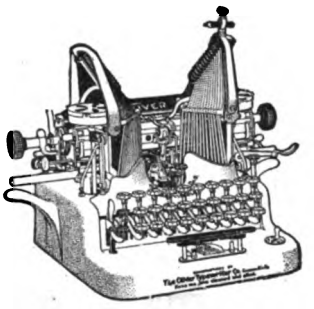

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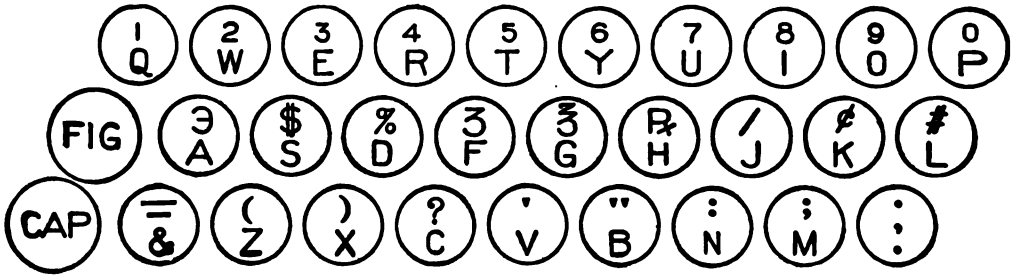

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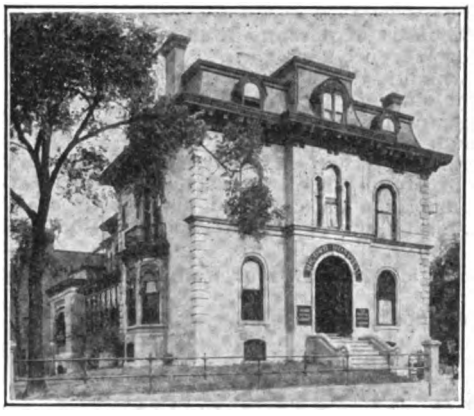

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